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## Predicting the exposure levels of cyber bullying of elementary students with regard to psychological symptoms

Tuncay Ayas<sup>a</sup>, Metin Deniz<sup>b</sup><sup>a</sup> Sakarya University, Education Faculty, Sakarya, 54300, Turkey<sup>b</sup> Gaziosmanpaşa University, Education Faculty, Tokat, 60150, Turkey

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### Abstract

In accordance with the needs of today's computers, mobile phones and internet use became widespread transport very quickly. Not just because of the computer to the Internet has become a common need, the mobile phone provides easy access to the internet as well as other technological tools. Negative results can be seen with the facilities provided by the technology. Adverse events in the use of technology among students have led to cyber bullying. Cyber bullying, using the internet and other digital technologies to harm others can be defined as the conscious and deliberate. In this study, primary school students are exposed to cyber bullying investigated the relationship between psychological symptoms. The sample of this study consists of totally 407 students (192 female, 215 male), attending elementary schools in the second period of 2011-2012 academic year in Sakarya, Turkey. The data were collected as a Virtual Bully / Victim Questionnaire, and the Brief Symptom Inventory. Results indicated that there is a moderate positive correlation between the level of exposure to virtual bullying and psychoticism.

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*Keywords:* Cyber bullying, virtual victim, psychological symptoms

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### 1. Introduction

Rapid progress in Internet and mobile phone technology has created an eternal new area for young people. Today, for young people computer, internet, mobile phone and other technological tools has been a part of their lives. Creating social relationships and norms and making new friends has been provided with these technological tools (Yaman, Eroğlu, & Peker, 2011). Young people can send e-mail, create their own websites, use blogs for intimate personal news, send images and text messages via mobile phone and can communicate with each other through chat (instant messages), also can specify opinion / decision in forums, and can call new friends through the internet and other technologies (Willard, 2007). However, what appears to be experiencing the benefits of each technological development, as well as problems arising from misuse of technology are also available (Arıcak, 2009). Recently, advances in technology and start of using technology more widely by young people have allowed students'

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\*Corresponding Author: Tuncay Ayas, Tel: 90-264-614 10 33; Fax: 90-264- 614 10 34  
E-mail: [tayas@sakarya.edu.tr](mailto:tayas@sakarya.edu.tr)

bullying behaviour with using technology. The types of bullying among students in this way, "cyber bullying" with a new type of bullying is observed (Ayas & Horzum, 2010).

Cyber bullying is defined as in the international literature in general, "to harm other persons, by an individual or a group, involving the use of information and communication technologies such as e-mail, cell phone, pager, text messaging service, and web sites; intentional, repetitive manner and hostile behaviors that support behavior " (Arıcak, 2009). According to Juvonen and Gross (2008), cyber bullying is the use of internet or other digital communication devices in order to threaten or insult someone. Slonje and Smith (2007) defined that cyber bullying is a form of aggression carried out with modern technological devices, particularly mobile phones and the internet.

According to the findings, cyber bullies and victims encounter a wide variety of physical, emotional, behavioral, and academic adjustment problems (Doğan, 2010). Cyber bullying has serious adverse effects in psychological, emotional and social areas. Findings indicated that after a period of exposure to bullying behavior caused the physical health symptoms and psychological distress. Also, continuous bullying behavior and lack of social support cause to feel these disorders more severe (Rigby, 2003). Patchin and Hinduja (2006) revealed that victims, exposed to cyber bullying, faced sadness, helplessness, depression, family and peer problems and problems such as anxiety. Hawker and Boulton (2000) noted that depression, loneliness, low socialization, low self-esteem, and anxiety are seen on the victims as psychological effects. Ybarra (2004) pointed out that individuals suffering from major depression were exposed to cyber bullying more than three times than those who have mild depression or have never experienced depression. Cyber bullying in particular is known to cause depression (Raskauskas & Stoltz, 2007; Erdur-Baker & Tanrikulu, 2010; Çetin et al., 2011), social anxiety (Juvonen & Gross, 2008), psychoticism (Arıcak, 2009), hostility (Arıcak, 2009), low self-esteem and stress (Hinduja & Patchin, 2009a), anxiety (Çetin et al., 2011), loneliness (Leishman, 2002) and despair (Beran & Li, 2005; Sharif, 2008) and other negative behaviors such as suicidal feelings (Hinduja & Patchin, 2009a).

## 2. Method

The study conducted based on general scanning model. The sample of this study consists of totally 407 students (192 female, 215 male), attending elementary schools in the second period of 2011-2012 academic year in Sakarya, Turkey. In this study, Cyber Bully/Victim Questionnaire (Ayas & Horzum, 2010) and Brief Symptom Inventory developed by Derogatis (1992) and adopted into Turkish by Şahin, Batıgün and Uğurtaş (2002) were administered.

## 3. Results

Regression analysis results to predict the cyber victims according to psychological symptoms are shown in Table 1.

Table 1. Results of multiple regression analysis for cyber victim

Variable	B	Standard Error	$\beta$	T	p	Bilateral r	Partial r
Fixed	-1.92	.71	-	-2.72	.00	-	-
Somatization	.01	.56	.01	.01	.99	.26	.01
Obs.com.dis.	.05	.48	.01	.10	.92	.26	.01
Int. Sensitivity	-.45	.35	-.07	-1.30	.20	.20	-.07
Depression	.82	.50	.14	1.65	.10	.32	.03
Anxiety	1.23	.67	.18	1.85	.07	.32	.09
Hostility	.47	.33	.09	1.44	.15	.27	.07
Phobic Anxiety	-.67	.56	-.09	-1.21	.23	.22	.06
Paranoid İde.	-.16	.30	-.04	-.53	.60	.25	-.03
Psychoticism	1.51	.54	.20	2.78	.00	.32	.14
R= .37, R <sup>2</sup> = .14, F <sub>(9,395)</sub> = 7.38, p= .00							

As shown in table 1, bilateral and partial correlation results among the variables that predict the dependent variable. Results indicated that there is a low positive bilateral correlation ( $r = .26$ ) between cyber victim and

somatization although controlling for other variables, the partial correlation between the two variables is a low positive correlation ( $r = .01$ ). Also, there is a low positive bilateral correlation ( $r = .26$ ) between cyber victim and obsessive-compulsion although controlling for other variables, the partial correlation between the two variables is a low positive correlation ( $r = .01$ ). However, there is a low positive bilateral correlation ( $r = .20$ ) between cyber victim and interpersonal sensitivity although controlling for other variables, the partial correlation between the two variables is a low positive correlation ( $r = .07$ ). Also, there is a moderate positive bilateral correlation ( $r = .32$ ) between cyber victim and depression although controlling for other variables, the partial correlation between the two variables is a low positive correlation ( $r = .03$ ). There is a moderate positive bilateral correlation ( $r = .32$ ) between cyber victim and anxiety although controlling for other variables, the partial correlation between the two variables is a low positive correlation ( $r = .09$ ). There is a low positive bilateral correlation ( $r = .27$ ) between cyber victim and hostility although controlling for other variables, the partial correlation between the two variables is a low positive correlation ( $r = .07$ ). There is a low positive bilateral correlation ( $r = .22$ ) between cyber victim and phobic anxiety although controlling for other variables, the partial correlation between the two variables is a low positive correlation ( $r = .06$ ). There is a low positive bilateral correlation ( $r = .25$ ) between cyber victim and paranoid ideation although controlling for other variables, the partial correlation between the two variables is a low negative correlation ( $r = -.03$ ). There is a moderate positive bilateral correlation ( $r = .32$ ) between cyber victim and psychoticism although controlling for other variables, the partial correlation between the two variables is a low negative correlation ( $r = -.14$ ).

Psychological symptoms revealed positive, moderate and significant relationship with cyber victim variable when they are taken together ( $R = .37$ ,  $p < .01$ ). Total of 14% variance of cyber victim is explained by psychological symptoms. According to the standardized regression coefficient, psychoticism, anxiety, depression, hostility, phobic anxiety, interpersonal sensitivity, paranoid ideation, somatization and obsessive-compulsion are the important predictors of the cyber victim, respectively. Analysing the results of t-test for significance of regression coefficients, psychoticism variable appears to be significant predictor of cyber victim.

Regression equation for cyber victim and psychological symptoms with respect to the results of the regression analysis;

*Cyber Victim* =  $-1.92 + 0.01 + 0.05$  Obsessive Compulsion -  $0.45$  Interpersonal Sensitivity +  $0.82$  Depression +  $2.23$  Anxiety +  $0.47$  Hostility -  $0.67$  Phobic Anxiety -  $0.16$  Paranoid Ideation +  $1.51$  Psychoticism

#### 4. Discussion

Events in the cyber bullying among students in recent years, particularly in developed countries is seen as a serious problem in countries where the technology is developing rapidly. With the increase in opportunities to have technological means, cyber bullying is considered to be a major problem later in the process. These events are seen among students are the causes of many problems appearing in schools and among students. Studies revealed that students exposed to cyber bullying were more adversely affected by the negative events occurred in schools (Glaser, Matthiesen, Nielsen and Einarsen; 2007; Mynard, Joseph and Alexandera, 2000; Nishina, Juvonen and Witkow, 2005; Patchin and Hinduja, 2006; Ybarra and Mishell, 2004). This study revealed that there was a positive and moderate relationship between the level of exposure to cyber bullying and psychoticism. This finding of this study is consistent with the previous study's finding made by Arıcak in 2009. Psychoticism can lead the changes individuals' emotional state and form of thinking and abnormal thoughts that make difficult to understand the person's feelings. This study indicated that as a result of these adverse events experienced by individuals, who are victims of cyber bullying, can be seen in this type of symptoms. The different studies in individuals exposed to cyber bullying (Raskauskas and Stoltz, 2007; Erdur-Baker and Tanrikulu, 2010; Cetin et al., 2011), social anxiety (Juvonen and Gross, 2008;), psychoticism (Arıcak, 2009), hostility (Arıcak, 2009), low self-esteem (Katzner et al, 2009; Hinduja and Patchin, 2009a), stress (Hinduja and Patchin, 2009a; Cetin et al., 2011) and anxiety (Cetin et al., 2011), loneliness (Leishman, 2002), and despair (Brean, 2005; Sharif, 2008), emotions and suicide (Hinduja and Patchin, 2009b) is shown in many different psychological symptoms. These studies also present that cyber bullying cause psychological negative effects. In the process of preventing cyber bullying incidents psychological support should

be given priority by the school counsellor to the students who were exposed to cyber bullying, taking into account the psychological symptoms.

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